

WHAT IS CLAIMED IS:

1. A contents transmission/reception system.  
comprising:

- 5       a transmission device; and  
      at least one reception device that receives  
contents from the transmission device;  
      wherein the transmission device has:  
      an authentication and key exchange processing  
10   unit configured to carry out an authentication and key  
      exchange processing with a reception device that made a  
contents transmission request;  
      a device identification information  
transmission request unit configured to transmit a  
15   device identification information request to the  
reception device, such that the reception device  
transmits a device identification information;  
      a device identification information  
registration unit configured to register the device  
20   identification information transmitted from the  
reception device;  
      a device identification information search unit  
configured to search out the device identification  
information corresponding to an IP (Internet Protocol)  
25   address of the reception device, from a network to  
which the reception device is connected;

a comparison judgement unit configured to judge whether the device identification information searched out by the device identification information search unit and the device identification information registered by the device identification information registration unit coincide or not; and

a distribution condition determination unit configured to change a distribution condition for contents to be transmitted to the reception device that made the contents transmission request, according to a judgement result obtained by the comparison judgement unit; and

the reception device has:

a contents transmission request unit configured to make the contents transmission request to the transmission device; and

a device identification information transmission unit configured to transmit the device identification information of the reception device to the transmission device, upon receiving the device identification information request from the transmission device.

2. The contents transmission/reception system of claim 1, wherein the device identification information is a MAC address of a network interface, and the device

identification information search unit transmits a MAC  
address search request by using an IP address of the  
reception device as a key to a network segment to which  
the reception device is connected, and receives a MAC  
5 address search result.

3. The contents transmission/reception system of  
claim 2, wherein the device identification information  
search unit searches out the MAC address corresponding  
10 to the IP address of the reception device by an ARP  
(Address Resolution Protocol).

4. The contents transmission/reception system of  
claim 2, wherein the device identification information  
15 transmission unit transmits the MAC address to the  
transmission device by attaching an electronic  
signature.

5. The contents transmission/reception system of  
20 claim 4, further comprising a verification unit  
configured to verify whether the MAC address is altered  
or not, when the electronic signature is attached to  
the MAC address;

wherein the device identification information  
25 registration unit registers the MAC address only when  
the verification unit judges that the MAC address is

not altered.

6. The contents transmission/reception system of claim 1, wherein the authentication and key exchange processing unit carries out the authentication and key exchange processing according to a DTCP (Digital Transmission Contents Protection).

7. The contents transmission/reception system of claim 1, wherein the reception device also has:

a reception device side authentication and key exchange processing unit configured to carry out the authentication and key exchange processing with the transmission device;

15 a network interface unit configured to receive encrypted contents from the transmission device; and

an encryption processing unit configured to decrypt the encrypted contents received by the network interface unit, by using a key exchanged by the reception device side authentication and key exchange processing unit.

8. A contents transmission device for transmitting contents to at least one reception device, the contents transmission device comprising:

an authentication and key exchange processing unit

configured to carry out an authentication and key exchange processing with a reception device that made a contents transmission request;

a device identification information transmission  
5 request unit configured to transmit a device identification information request to the reception device, such that the reception device transmits a device identification information;

a device identification information registration  
10 unit configured to register the device identification information transmitted from the reception device;

a device identification information search unit configured to search out the device identification information corresponding to an IP (Internet Protocol)  
15 address of the reception device, from a network to which the reception device is connected;

a comparison judgement unit configured to judge whether the device identification information searched out by the device identification information search  
20 unit and the device identification information registered by the device identification information registration unit coincide or not; and

a distribution condition determination unit configured to change a distribution condition for  
25 contents to be transmitted to the reception device that made the contents transmission request, according to a

judgement result obtained by the comparison judgement unit.

9. A contents transmission/reception system,

5 comprising:

a transmission device; and

at least one reception device that receives contents from the transmission device;

wherein a reception device has:

10 a contents transmission request unit configured to make a contents transmission request to the transmission device;

a first authentication and key exchange processing unit configured to carry out an

15 authentication and key exchange processing with the transmission device to which the contents transmission request is made;

a device identification information

transmission request unit configured to transmit a

20 device identification information request to the transmission device, such that the transmission device transmits a device identification information;

a device identification information

registration unit configured to register the device

25 identification information transmitted from the transmission device;

a device identification information search unit configured to search out the device identification information corresponding to an IP (Internet Protocol) address of the transmission device, from a network to which the transmission device is connected;

a comparison judgement unit configured to judge whether the device identification information searched out by the device identification information search unit and the device identification information registered by the device identification information registration unit coincide or not; and

a reception condition determination unit configured to determine a reception condition for contents to be transmitted from the transmission device to which the contents transmission request is made, according to a judgement result obtained by the comparison judgement unit; and

the transmission device has:

a device identification information transmission unit configured to transmit the device identification information of the transmission device to the reception device, upon receiving the device identification information request from the reception device;

a second authentication and key exchange processing unit configured to carry out an

authentication and key exchange processing with the reception device that made the contents transmission request; and

5 a contents transmission control unit configured to carry out contents transmission control according to the reception condition determined by the reception condition determination unit.

10. A contents reception device for receiving contents from a transmission device, the contents reception device comprising:

a contents transmission request unit configured to make a contents transmission request to the transmission device;

15 an authentication and key exchange processing unit configured to carry out an authentication and key exchange processing with the transmission device to which the contents transmission request is made;

20 a device identification information transmission request unit configured to transmit a device identification information request to the transmission device, such that the transmission device transmits a device identification information;

25 a device identification information registration unit configured to register the device identification information transmitted from the transmission device;



a device identification information search unit  
configured to search out the device identification  
information corresponding to an IP (Internet Protocol)  
address of the transmission device, from a network to  
5 which the transmission device is connected;

a comparison judgement unit configured to judge  
whether the device identification information searched  
out by the device identification information search  
unit and the device identification information  
10 registered by the device identification information  
registration unit coincide or not; and

a reception condition determination unit  
configured to determine a reception condition for  
contents to be transmitted from the transmission device  
15 to which the contents transmission request is made,  
according to a judgement result obtained by the  
comparison judgement unit.

11. A contents transmission/reception system,  
20 comprising:

a transmission device; and

at least one reception device that receives  
contents from the transmission device;

wherein the transmission device has:

25 a device identification information  
transmission request unit configured to transmit a

device identification information request to a reception device that made a contents transmission request, such that the reception device transmits a device identification information;

5           a device identification information registration unit configured to register the device identification information transmitted from the reception device;

          an advance notice unit configured to make a  
10 device identification information search advance notice, to the reception device;

          a device identification information search unit configured to search out the device identification information corresponding to an IP (Internet Protocol)  
15 address of the reception device, from a network to which the reception device is connected;

          a comparison judgement unit configured to judge whether the device identification information searched out by the device identification information search  
20 unit and the device identification information registered by the device identification information registration unit coincide or not;

          a request response reception judgement unit configured to judge whether a response to the device  
25 identification information search advance notice is received or not; and

a distribution condition determination unit  
configured to determine a distribution condition for  
contents to be transmitted to the reception device that  
made the contents transmission request, according to  
5 judgement results obtained by the comparison judgement  
unit and the request response reception judgement unit;  
and

the reception device has:

a device information transmission unit  
10 configured to transmit the device identification  
information of the reception device and a device  
identification information search advance notice  
response to the transmission device, upon receiving the  
device identification information request from the  
15 transmission device.

12. The contents transmission/reception system of  
claim 11, wherein the reception device also has:

a device identification information search  
20 judgement unit configured to judge whether the device  
identification information search request from the  
transmission device is received or not; and

a contents reception control unit configured to  
prohibit reception of contents from the transmission  
25 device when the device identification information  
search judgement unit judges that the device

identification information search request is not received.

13. A contents transmission device for transmitting  
5 contents to at least one reception device, the contents transmission device comprising:

a device identification information transmission request unit configured to transmit a device identification information request to a reception  
10 device that made a contents transmission request, such that the reception device transmits a device identification information;

a device identification information registration unit configured to register the device identification  
15 information transmitted from the reception device;

an advance notice unit configured to make a device identification information search advance notice, to the reception device;

a device identification information search unit  
20 configured to search out the device identification information corresponding to an IP (Internet Protocol) address of the reception device, from a network to which the reception device is connected;

a comparison judgement unit configured to judge  
25 whether the device identification information searched out by the device identification information search

unit and the device identification information  
registered by the device identification information  
registration unit coincide or not;

5 a request response reception judgement unit  
configured to judge whether a response to the device  
identification information search advance notice is  
received or not; and

10 a distribution condition determination unit  
configured to determine a distribution condition for  
contents to be transmitted to the reception device that  
made the contents transmission request, according to  
judgement results obtained by the comparison judgement  
unit and the request response reception judgement unit.

15 14. A contents transmission/reception system,  
comprising:

a transmission device; and

at least one reception device that receives  
contents from the transmission device;

20 wherein the transmission device has:

a device identification information search  
judgement unit configured to judge whether a device  
identification information search request from a  
reception device is received or not; and

25 a contents transmission control unit configured  
to prohibit transmission of contents to the reception

device when the device identification information search judgement unit judges that the device identification information search request is not received; and

5       the reception device has:

        a contents transmission request unit configured to make a contents transmission request to the transmission device;

        an authentication and key exchange processing  
10       unit configured to carry out an authentication and key exchange processing with the transmission device to which the contents transmission request is made;

        a device identification information transmission request unit configured to transmit the  
15       device identification information request to the transmission device, such that the transmission device transmits a device identification information;

        a device identification information registration unit configured to register the device  
20       identification information transmitted from the reception device;

        an advance notice unit configured to make a device identification information search advance notice, to the transmission device;

25       a device identification information search unit configured to search out the device identification

information corresponding to an IP (Internet Protocol) address of the transmission device, from a network to which the transmission device is connected;

5 a comparison judgement unit configured to judge whether the device identification information searched out by the device identification information search unit and the device identification information registered by the device identification information registration unit coincide or not; and

10 a reception condition determination unit configured to determine a reception condition for contents to be transmitted from the transmission device to which the contents transmission request is made, according to a judgement result obtained by the  
15 comparison judgement unit.

15. A contents reception device for receiving contents from a transmission device, the contents reception device comprising:

20 a contents transmission request unit configured to make a contents transmission request to the transmission device;

an authentication and key exchange processing unit configured to carry out an authentication and key  
25 exchange processing with the transmission device to which the contents transmission request is made;

a device identification information transmission request unit configured to transmit a device identification information request to the transmission device, such that the transmission device transmits a  
5 device identification information;

a device identification information registration unit configured to register the device identification information transmitted from the reception device;

an advance notice unit configured to make a device  
10 identification information search advance notice, to the transmission device;

a device identification information search unit configured to search out the device identification information corresponding to an IP (Internet Protocol)  
15 address of the transmission device, from a network to which the transmission device is connected;

a comparison judgement unit configured to judge whether the device identification information searched out by the device identification information search  
20 unit and the device identification information, registered by the device identification information registration unit coincide or not; and

a reception condition determination unit configured to determine a reception condition for  
25 contents to be transmitted from the transmission device to which the contents transmission request is made,



according to a judgement result obtained by the  
comparison judgement unit.

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